Advancement Handbook
for
Cryptologic Technician
Communications (CTO)

This Advancement Handbook was developed in October 1999.

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PREFACE

The purpose of the Advancement Handbook is to assist CTOs in preparing for Navywide advancement-in-rating examinations. The bibliographies (BIBs), together with this handbook, form a comprehensive examination study package. Since this handbook provides skill and knowledge components for each paygrade of the CTO rating, it helps focus study on those areas that will be tested. This feature ensures Sailors will get the most out of their study time.

Each page in Parts 1 through 4 of this Advancement Handbook presents general skill areas, specific skill areas, the knowledge factors associated with each skill area, the pertinent references required to perform each skill, and the types of subject areas you can expect on the examination. The skill statements describe the skills you are expected to perform for each paygrade. They are cumulative; that is, you are responsible for all the skills for the paygrade for which you are competing, your present paygrade, and all paygrades below.

Although this handbook is very comprehensive, it cannot cover all the tasks performed in the rating. As a result, advancement examinations may contain questions more detailed than described in the "exam expectations" section of the skill areas.

Remember that advancement competition is keen, so your keys to advancement include not only comprehensive advancement examination study but also sustained superior performance.

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THE UNITED STATES NAVY

GUARDIAN OF OUR COUNTRY

The United States Navy is responsible for maintaining control of the sea and is a ready force on watch at home and overseas, capable of strong action to preserve the peace or of instant offensive action to win in war.

It is upon the maintenance of this control that our country's glorious future depends; the United States Navy exists to make it so.

WE SERVE WITH HONOR

Tradition, valor, and victory are the Navy's heritage from the past. To these may be added dedication, discipline, and vigilance as the watchwords of the present and the future.

At home or on distant stations, we serve with pride, confident in the respect of our country, our shipmates, and our families.

Our responsibilities sober us; our adversities strengthen us.

Service to God and Country is our special privilege. We serve with honor.

THE FUTURE OF THE NAVY

The Navy will always employ new weapons, new techniques, and greater power to protect and defend the United States on the sea, under the sea, and in the air.

Now and in the future, control of the sea gives the United States her greatest advantage for the maintenance of peace and for victory in war.

Mobility, surprise, dispersal, and offensive power are the keynotes of the new Navy. The roots of the Navy lie in a strong belief in the future, in continued dedication to our tasks, and in reflection on our heritage from the past.

Never have our opportunities and our responsibilities been greater.

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Part 1

Advancement Handbook for CTO3

Advancement Handbook for CTO3

General CTO3 Sk*ill Area*	**Cryptographic Equipment Operations**
A *skill* you are expected to perform from the General Skill Area above:	**Operate cryptographic systems**
Knowledge you should have to perform this skill:	• Purpose and function of various cryptographic equipment • Basic concept of signal encryption and decryption
References you should study to gain the knowledge you need to perform this skill:	• COI-104 • NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO3 *Skill Area*	**Multiplexing Operations**
A *skill* you are expected to perform from the General Skill Area above:	**Operate multiplexing equipment**
Knowledge you should have to perform this skill:	• Purpose and use of multiplexers • Types of multiplexers
References you should study to gain the knowledge you need to perform this skill:	• COI-104 • NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect question from each of the areas listed under *Knowledge*.

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General CTO3 *Skill Area*	**Conversion Equipment and Modems**
A *skill* you are expected to perform from the General Skill Area above:	**Operate signal conversion equipment and modems**
Knowledge you should have to perform this skill:	• Purpose and function of signal conversion equipment • Types of conversion equipment • Basic understanding of modems
References you should study to gain the knowledge you need to perform this skill:	• COI-104 • NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

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General CTO3 *Skill Area*	**Patches and Patching**
A *skill* you are expected to perform from the General Skill Area above:	**Make patches to monitor circuits/equipment**
Knowledge you should have to perform this skill:	• Types of patch panels • Types of patches • Circuit path signal flow
References you should study to gain the knowledge you need to perform this skill:	• COI-104 • NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect question from each of the areas listed under *Knowledge.*

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General CTO3 Sk*ill Area*	**Check Circuit and Line Status**
A *skill* you are expected to perform from the General Skill Area above:	**Monitor/troubleshoot circuit and line problems**
Knowledge you should have to perform this skill:	• Difference between system diagnosis and quality control • Coordination procedures between facilities controllers and users • Back to back testing procedures • Types of test equipment • Types of tests
References you should study to gain the knowledge you need to perform this skill:	• NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO3 *Skill Area*	**Telecommunications Orderwires**
A *skill* you are expected to perform from the General Skill Area above:	**Operate and maintain orderwire systems**
Knowledge you should have to perform this skill:	• Purpose and use of an orderwire • Transmission path of local orderwires • Telecommunications service priority of orderwires • Types of orderwire systems
References you should study to gain the knowledge you need to perform this skill:	• COI-104 • NSGTP 683-20-00-94
Expectations These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

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General CTO3 *Skill Area*	**Master Time Clock System**
A *skill* you are expected to perform from the General Skill Area above:	**Synchronize the timing of all equipment**
Knowledge you should have to perform this skill:	• Primary timing systems • Types of timing systems • Familiarity with the alarms and indicators of each system • Purpose of master clock
References you should study to gain the knowledge you need to perform this skill:	• COI-104 • NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

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General CTO3 *Skill Area*	**Circuit Path Signal Flow**
A *skill* you are expected to perform from the General Skill Area above:	**Describe and diagram signal flow**
Knowledge you should have to perform this skill:	• Types of signals • Signal flow send and receive • Parts of a patch cord and their use • Function of the jacks on a patch panel
References you should study to gain the knowledge you need to perform this skill:	• COI-104 • NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

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General CTO3 *Skill Area*	**Quality Control Standards**
A *skill* you are expected to perform from the General Skill Area above:	**Conduct quality control (QC) checks**
Knowledge you should have to perform this skill:	• Types of signal distortion • Troubleshooting procedures • Procedures for reporting substandard equipment • Coordination procedures with users • Coordination procedures with commercial carriers • Scheduled/unscheduled testing procedures • Types of test equipment
References you should study to gain the knowledge you need to perform this skill:	• COI-104 • NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO3 *Skill Area*	**Tech Control Status Reporting**
A *skill* you are expected to perform from the General Skill Area above:	**Prepare status report messages**
Knowledge you should have to perform this skill:	• Principle of status reporting • Purpose of a formatted report • Reason for outage codes • Outage reporting responsibilities • Types of status report messages • Purpose of station logs/troublechits
References you should study to gain the knowledge you need to perform this skill:	• COI-101 • NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO3 *Skill Area*	**Electronic Safety**
A *skill* you are expected to perform from the General Skill Area above:	**Provide a safe facility and work area**
Knowledge you should have to perform this skill:	• First safety rule when working around electronic equipment • Who is responsible for safety • Purpose and use of safety posters • Recognition of various warning and caution signs in use • Corrective actions for potential safety hazards • Purpose of an emergency safety board • Tag-out procedures and logs • Electrical shock symptoms • First-aid for electrical shock
References you should study to gain the knowledge you need to perform this skill:	• NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO3 *Skill Area*	**Information Systems (IS) Operations**
A *skill* you are expected to perform from the General Skill Area above:	**Conduct networking operations**
Knowledge you should have to perform this skill:	Procedures for: • Loading operating systems software • Configuring network connections • Monitoring network protocols • Troubleshooting network faults • Verifying network settings • Monitoring host server • Monitoring network interfaces • Performing software upgrades
References you should study to gain the knowledge you need to perform this skill:	• NETG 70421 • NETG 70422 • NETG 12258
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO3 *Skill Area*	**Security**
A *skill* you are expected to perform from the General Skill Area above:	**Handle controlled unclassified information, SCI/Genser material and equipment and CMS material**
Knowledge you should have to perform this skill:	Procedures required to: • Inventory classified material • Control access to restricted areas • Prepare security procedure checklist • Maintain physical security • Perform two-person-integrity (TPI) • Perform classified material destruction • Receipt for CMS material • Safeguard CMS material • Prepare CMS reports • Inventory CMS material • Change CMS security container combination and locks • Load CMS keying material • Destroy CMS keying material
References you should study to gain the knowledge you need to perform this skill:	• SECNAVINST 5510.30 • SECNAVINST 5510.36 • NSGTP 683-11-00-98 • CMS-1A
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

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General CTO3 *Skill Area*	**Security**
A *skill* you are expected to perform from the General Skill Area above:	**Operate/maintain secure telephone equipment**
Knowledge you should have to perform this skill:	• Procedures for safeguarding secure keys • Types of secure telephone equipment • Zeroizing procedures • Key updating procedures • Authentication procedures
References you should study to gain the knowledge you need to perform this skill:	• CMS-6
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO3 *Skill Area*	**Communications**
A *skill* you are expected to perform from the General Skill Area above:	**Operate secure classified and unclassified facsimile equipment, transmit/receive electronic data (Email, Internet, LAN, WAN, WEB)**
Knowledge you should have to perform this skill:	• Differences between accredited and non-accredited secure communications systems • Software applications used with accredited communications systems • Password protection criteria • Virus protection criteria • LAN/WAN security procedures • Recording media protection criteria • Destruction methods for media
References you should study to gain the knowledge you need to perform this skill:	• Joint DODIIS/SCI Cryptologic Information Systems Security Standards • SECNAVINST 5216.5 • SECNAVINST 5510.36 • NSGTP 683-11-00-98
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO3 *Skill Area*	**Communications**
A *skill* you are expected to perform from the General Skill Area above:	**Perform message center operations**
Knowledge you should have to perform this skill:	Procedures for: • Transmitting/receiving naval messages • Routing/logging naval messages • Formatting naval messages • Accounting for naval messages • Reviewing routed messages for accuracy
References you should study to gain the knowledge you need to perform this skill:	• DOI-103 • ACP-121 • ACP-127 • JANAP-128
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO3 *Skill Area*	**Communications**
A *skill* you are expected to perform from the General Skill Area above:	**Process CRITIC messages**
Knowledge you should have to perform this skill:	- CRITIC message format - Unique precedence requirements - Sensitivity of CRITIC handling - Assigning DTG, TOF, TCC, DDI - Unique routing instructions - CRITIC handling reports
References you should study to gain the knowledge you need to perform this skill:	DOI-103
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO3 *Skill Area*	**Communications**
A *skill* you are expected to perform from the General Skill Area above:	**Process service messages**
Knowledge you should have to perform this skill:	Procedures for: • Formatting service messages • Using operating signals • Assigning precedence to services • Servicing a CRITIC message • Follow-up action on services • Performing the role of a service clerk
References you should study to gain the knowledge you need to perform this skill:	• DOI-103 • ACP-131
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

Part 2

Advancement Handbook for CTO2

Advancement Handbook for CTO2

General CTO2 *Skill Area*	**Information Systems (IS) Operations**
A *skill* you are expected to perform from the General Skill Area above:	**Conduct networking operations**
Knowledge you should have to perform this skill:	Procedures required to: • Perform/monitor computer equipment set-up and operations • Troubleshoot software problems • Create/modify system directories • Monitor network performance • Monitor host server functions • Monitor network interfaces • Upgrade computer systems
References you should study to gain the knowledge you need to perform this skill:	• NETG 70421 • NETG 70422
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO2 *Skill Area*	**Technical Control**
A *skill* you are expected to perform from the General Skill Area above:	**Perform the duties of a tech control clerk**
Knowledge you should have to perform this skill:	Procedures required to: • Read/interpret circuit equipment schematic diagrams • Operate test devices and their purpose • Operate patch panels and make patches • Operate/maintain cryptographic devices • Reroute/restore disrupted circuits • Perform QC tests • Coordinate with circuit suppliers • Report circuit outages • Evaluate new equipment • Activate/deactivate circuits • Maintain logs and records • Conduct training for new operators
References you should study to gain the knowledge you need to perform this skill:	• COI-104 • NSGTP 683-07-44-92 • NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO2 *Skill Area*	**Quality Control/Quality Assurance**
A *skill* you are expected to perform from the General Skill Area above:	**Perform QC/QA testing**
Knowledge you should have to perform this skill:	- Purpose of QC/QA program - Types of signal distortion - Types of testing equipment - QC testing forms and logs - Procedures for troubleshooting - Procedures for reporting substandard equipment - Procedures for coordinating with commercial carriers - Process of QC testing
References you should study to gain the knowledge you need to perform this skill:	- COI-104 - NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO2 *Skill Area*	**Status Report Messages**
A *skill* you are expected to perform from the General Skill Area above:	**Prepare/process status report messages**
Knowledge you should have to perform this skill:	- Status reporting procedures - Types of status messages and reports - Reason for outage codes - Principle of status reporting - Outage reporting responsibility - Purpose of station logs/trouble chits
References you should study to gain the knowledge you need to perform this skill:	- COI-101 - NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

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General CTO2 *Skill Area*	**Communications**
A *skill* you are expected to perform from the General Skill Area above:	**Supervise message center operations**
Knowledge you should have to perform this skill:	Procedures for: • Formatting naval messages • Transmitting/receiving naval messages • Routing naval messages • Verifying message correctness • Operating communications equipment
References you should study to gain the knowledge you need to perform this skill:	• DOI-103 • ACP-121 • ACP-127 • JANAP-128
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO2 *Skill Area*	**Communications**
A *skill* you are expected to perform from the General Skill Area above:	**Process CRITIC messages**
Knowledge you should have to perform this skill:	Procedures for: • Formatting CRITIC messages • Assigning DTG, TOF, TCC, DDI • Assigning precedence to a CRITIC • Special handling of a CRITIC • Routing a CRITIC • CRITIC handling reports
References you should study to gain the knowledge you need to perform this skill:	• DOI-103
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO2 *Skill Area*	**Communications**
A *skill* you are expected to perform from the General Skill Area above:	**Operate ship/shore communications circuits**
Knowledge you should have to perform this skill:	Procedures for: • Circuit activation/deactivation • Coordinating with facilities control • Processing ship/shore message traffic • Monitoring circuit outages • Monitoring circuit quality/readiness
References you should study to gain the knowledge you need to perform this skill:	• NTP-4 • NSGTP 683-28-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

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General CTO2 *Skill Area*	**Communications**
A *skill* you are expected to perform from the General Skill Area above:	**Compile message totals and statistics**
Knowledge you should have to perform this skill:	Procedures for: • Operating software programs designed to monitor statistics and totals • Performing statistical analysis • Interpreting message statistics
References you should study to gain the knowledge you need to perform this skill:	• DOI-103
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO2 *Skill Area*	**Security**
A *skill* you are expected to perform from the General Skill Area above:	**Practice strict SCI security management**
Knowledge you should have to perform this skill:	• Chain of management for SCI security functions and responsibilities • Roles of key agencies as applied to safeguarding SCI material • Directives and publications governing security of SCI material • Command level SCI security management and roles
References you should study to gain the knowledge you need to perform this skill:	• SECNAVINST 5510.30 • SECNAVINST 5510.36 • NSGTP 683-11-00-98
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO2 *Skill Area*	**Security**
A *skill* you are expected to perform from the General Skill Area above:	**Monitor behavior and actions of SCI cleared personnel for indications of personal problems that could lead to termination of SCI access**
Knowledge you should have to perform this skill:	- Procedures for granting and recording security clearances - SCI security education and training requirements - Types of clearances - Minimum security standards for eligibility for access to SCI - Length of time SCI security clearances remain effective before updates - Exceptions to minimum standards and the individual authorized to grant them - Need-to-know requirements - Requirements for granting access to SCI - Types of clearance update forms - Purpose of the NDA - Procedures/reasons for terminating SCI access administratively and for cause
References you should study to gain the knowledge you need to perform this skill:	- SECNAVINST 5510.30 - SECNAVINST 5510.36 - NAVSUPP to DOD S-5105.21 (M1) - NSGTP 683-11-00-98
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTO2 *Skill Area*	**Security**
A *skill* you are expected to perform from the General Skill Area above:	**Prepare access control lists**
Knowledge you should have to perform this skill:	• Requirements for determining need-to-know • Specific mission requirements • Classification levels of equipment • Coordinating security actions with SSO
References you should study to gain the knowledge you need to perform this skill:	• SECNAVINST 5510.30 • SECNAVINST 5510.36 • NSGTP 683-11-00-98
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

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General CTO2 *Skill Area*	**Electronic Safety**
A *skill* you are expected to perform from the General Skill Area above:	**Maintain a safe work environment**
Knowledge you should have to perform this skill:	• Responsibilities for a safe work area • Reporting procedures for unsafe working conditions • Safety rules and regulations • The importance of "rule one" • Purpose and use of safety posters • Purpose of caution/warning signs • Types of safety inspections • Corrective action for safety hazards • Purpose of an emergency safety board • Tag-out logs and procedures • First-aid for shock and symptoms
References you should study to gain the knowledge you need to perform this skill:	• NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

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General CTO2 *Skill Area*	**Cryptologic Communications**
A *skill* you are expected to perform from the General Skill Area above:	**Perform cryptologic communications operations**
Knowledge you should have to perform this skill:	• Components of the National Communications System (NCS) • Operational structure of the Defense Information Systems Agency (DISA) • Mission of COMNAVTELCOM. • CNSG's role in supporting COMNAVTELCOM • Purpose of a SPINTCOMM
References you should study to gain the knowledge you need to perform this skill:	• NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

Part 3

Advancement Handbook for CTO1

Advancement Handbook for CTO1

General CTO1 *Skill Area*	**Information Systems (IS) Operations**
A *skill* you are expected to perform from the General Skill Area above:	**Monitor networking operations**
Knowledge you should have to perform this skill:	• IS COMSEC monitoring procedures • Procedure to assess IS vulnerabilities • Requirements for virus protection and implementing virus countermeasures • Procedure for protecting passwords • Role and responsibility of an ISSM • Internet security requirements • Intranet security requirements • Perform INFOSEC awareness training • Procedures for IS system accreditation
References you should study to gain the knowledge you need to perform this skill:	• Joint DODIIS/SCI Cryptologic Information Systems Security Standards • NSGTP 683-11-00-98 • OPNAVINST 2201.3 • SECNAVINST 5510.30 • SECNAVINST 5510.36
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

Advancement Handbook for CTO1

General CTO1 *Skill Area*	**Communications**
A *skill* you are expected to perform from the General Skill Area above:	**Monitor ship/shore communications**
Knowledge you should have to perform this skill:	Procedures for: • Drafting circuit activation/deactivation messages • Monitoring ship/shore message traffic • Coordinating with facilities control
References you should study to gain the knowledge you need to perform this skill:	• NSGTP 683-20-00-94 • NTP-4
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

Advancement Handbook for CTO1

General CTO1 *Skill Area*	**Technical Control Administration**
A *skill* you are expected to perform from the General Skill Area above:	**Draft Telecommunications Service Request (TSR) and Telecommunications Service Order (TSO)**
Knowledge you should have to perform this skill:	• Purpose of TSR • Purpose of TSO • Types of formats for TSR/TSO • Purpose of completion reports • Purpose of exception reports • Purpose of a feeder TSR
References you should study to gain the knowledge you need to perform this skill:	• DISA Circular 310-130-1 • NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

Advancement Handbook for CTO1

General CTO1 *Skill Area*	**Quality Control/Quality Assurance**
A *skill* you are expected to perform from the General Skill Area above:	**Conduct system/circuit diagnosis**
Knowledge you should have to perform this skill:	• Difference between system diagnosis and quality control • Types of test equipment • Troubleshooting/altroute procedures • Role of the quality control manager • Types of quality control testing • Reporting procedures for QC testing • Purpose of the trend analysis program
References you should study to gain the knowledge you need to perform this skill:	• COI-104 • NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

Advancement Handbook for CTO1

General CTO1 *Skill Area*	**Security**
A *skill* you are expected to perform from the General Skill Area above:	**Maintain Tempest requirements**
Knowledge you should have to perform this skill:	• Tempest reporting criteria • Tempest requirements in CONUS • Tempest requirements outside CONUS • Procedures to request a TSCM
References you should study to gain the knowledge you need to perform this skill:	• DOD 5101.21 (M1) • OPNAVNOTE C5510
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

Advancement Handbook for CTO1

General CTO1 *Skill Area*	**Safety**
A *skill* you are expected to perform from the General Skill Area above:	**Supervise the safety program**
Knowledge you should have to perform this skill:	Procedures for: • Ensuring a safe work environment • Conducting safety training • Conducting safety inspections • Conducting first-aid training • Safety spot-checks • Corrective action for safety hazards
References you should study to gain the knowledge you need to perform this skill:	• NSGTP 683-20-00-94
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

Part 4

Advancement Handbook for CTOC

Advancement Handbook for CTOC

General CTOC *Skill Area*	**Management and Supervision**
A *skill* you are expected to perform from the General Skill Area above:	**Perform Communication Chief duties**
Knowledge you should have to perform this skill:	• Requirements for message releasing • Requirements for maintaining a budget • Manning requirements • Procedures for personnel performance evaluation and counseling • Procedure to submit personnel awards • Personnel training requirements
References you should study to gain the knowledge you need to perform this skill:	• EDVR • OPNAVINST 1000.16 • NAVPERS 18068F • NSGINST 1650.9D • BUPERSINST 1610.10
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

Advancement Handbook for CTOC

General CTOC *Skill Area*	**Security**
A *skill* you are expected to perform from the General Skill Area above:	**Manage CMS personnel and material**
Knowledge you should have to perform this skill:	- Procedures for establishing a CMS account - Procedures for issuing CMS material - Selection criteria for CMS personnel - CMS custodian role and duties - Criteria for security clearance levels of CMS custodian and personnel - Purpose and function of NCIRES - NSA's role regarding CMS material - COMSEC incident reporting procedures - Categories of COMSEC incidents - Types of incident reports - CMS message format - Compromise, practices dangerous to security, and violation reporting criteria
References you should study to gain the knowledge you need to perform this skill:	- CMS-1A - SECNAVINST 5510.30 - SECNAVINST 5510.36 - NSGTP 683-11-00-98
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

Advancement Handbook for CTOC

General CTOC *Skill Area*	**Security**
A *skill* you are expected to perform from the General Skill Area above:	**Manage the Emergency Action Plan (EAP)**
Knowledge you should have to perform this skill:	- Purpose of an EAP - Considerations when drafting an EAP - Emergency destruction conditions, phases, plans, training, methods, reporting, recordkeeping - EAP risk factors and assessment criteria
References you should study to gain the knowledge you need to perform this skill:	- NSGINST 5510.7C - SECNAVINST 5510.30 - SECNAVINST 5510.36 - NSGTP 683-11-00-98
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTOC *Skill Area*	**Communications**
A *skill* you are expected to perform from the General Skill Area above:	**Manage CRITIC message handling and training program**
Knowledge you should have to perform this skill:	• NSA CRITIC exercise program • CRITIC training and drills • Alternate routing for a CRITIC message • CRITIC handling report criteria
References you should study to gain the knowledge you need to perform this skill:	• DOI-103
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge*.

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General CTOC *Skill Area*	**Safety**
A *skill* you are expected to perform from the General Skill Area above:	**Manage safety program**
Knowledge you should have to perform this skill:	Procedures for: • Tag-out logs • Recognizing electric shock symptoms • Rendering first-aid for electric shock • Evaluating the effectiveness of a safety program • Monitoring safety awareness • Conducting safety inspections
References you should study to gain the knowledge you need to perform this skill:	• OPNAVINST 3120.32 • OPNAVINST 5100.19 • OPNAVINST 5102.1
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

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General CTOC *Skill Area*	**Information Systems (IS) Operations**
A *skill* you are expected to perform from the General Skill Area above:	**Manage networking operations**
Knowledge you should have to perform this skill:	• IS COMSEC monitoring procedures • Procedure to assess IS vulnerabilities • Requirements for virus protection and implementing virus countermeasures • Procedures to protect passwords • Role and responsibility of an ISSM • Internet security requirements • Intranet security requirements • INFOSEC security awareness training and requirements • Procedures for IS system accreditation
References you should study to gain the knowledge you need to perform this skill:	• Joint DODIIS/SCI Cryptologic Information Systems Security Standards • NSGTP 683-11-00-98 • OPNAVINST 2201.3 • SECNAVINST 5510.30 • SECNAVINST 5510.36
Exam Expectations. These are subject areas you should know to help you answer exam questions correctly:	You can expect questions from each of the areas listed under *Knowledge.*

Appendix 1

References Used in This Advancement Handbook

ACP-121 (U.S. SUPP 1)
Communications Instructions, General (U.S. Supplement 1)

ACP-127
Communications Instructions, General

ACP-131
Communications Instructions, Operating Signals

BUPERSINST 1610.10
Navy Performance Evaluation and Counseling System

CMS-1A
Communications Security Material System (CMS) Policy and Procedures Manual

CMS-6
Secure Telephone Unit Third Generation (STU-III) COMSEC Material Management Manual

COI-101
CRITICOMM Operating Instructions, General

COI-104
CRITICOMM Operating Instructions, Facilities Control Procedures

DISAC 310-130-1
Submission of Telecommunications Service Requests

DOI-103
Defense Special Security Communications System (DSSCS) Operating Instructions System/Data Procedures

EPMAC 1080#4 UM-01
Enlisted Distribution and Verification Report Users' Manual

JANAP-128
AUTODIN Operating Instructions

Joint DODIIS/Cryptologic SCI Information Systems Security Standards

NAVPERS 18068F
Manual of Navy Enlisted Manpower and Personnel Classifications and Occupational
Standards

NAVSECGRUINST 1650.9D
NAVSECGRU Awards Manual

NAVSECGRUINST 5510.7C
Command Guidance for Emergency Action Plans (EAP)

NAVSUPP to DOD 5105.21 (M-1)
Navy Department Supplement to DOD Directive 5105.21-M-1, Department of Defense
Sensitive Compartmented Information Administrative Security Manual

NETG 12258
TCP/IP Networking: Concepts and Protocols

NETG 70421
Networking Essentials - Part 1

NETG 70422
Networking Essentials - Part 2

NSGTP 683-07-44-92
Naval Security Group Training Series, Module 7, Cryptographic Operators Manual

NSGTP 683-11-00-98
Naval Security Group Training Series, Module 11, SCI Security and Emergency
Destruction

NSGTP 683-20-00-94
Naval Security Group Training Series, Module 20, Technical Control

NSGTP 683-28-00-94
Naval Security Group Training Series, Module 28, Shipboard Communications

NTP 4
Fleet Communications

OPNAVINST 1000.16J
Manual of Navy Total Force Manpower Policies and Procedures

OPNAVINST 2201.3
Communications Security (COMSEC) Monitoring of Navy and Marine Corps
Telecommunications and Automated Information Systems

OPNAVINST 3120.32
Standard Organization and Regulations of the U.S. Navy

OPNAVINST 5100.19
Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat

OPNAVINST 5102.1
Mishap Investigation and Reporting

OPNAVNOTE C5510
Navy Implementation of National Policy on the Control of Compromising Emanations (TEMPEST)

SECNAVINST 5216.5D
Department of the Navy Correspondence Manual

SECNAVINST 5510.30A
Department of the Navy Personnel Security Program

SECNAVINST 5510.36
Department of the Navy (DON) Information Security Program (ISP) Regulation